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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/612,136 | 07/07/2000 | Tohru Nagano | JA999-118X | 8446 |

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EXAMINER

HAN, QI

ART UNIT PAPER NUMBER

2654

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/612,136

Applicant(s)

NAGANO ET AL.

Examiner

Qi Han

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Amendments

2. This communication is responsive to the applicant's amendment dated 10/22/2004.

Response to Arguments

Applicant's arguments with respect to claims 7-28 have been considered but are moot in view of the new ground(s) of rejection (see below).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 7-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 7, the limitation "in which the related mutually dependent **relationships exceed a configurable threshold**" introduces new subject matter, because the original

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specification does specifically describe the limitation (see the closest disclosure on page 5, lines 1-3). In addition, the limitation “to identify related concepts which occur at a frequency greater than a **configurable** threshold” also introduces new subject matter”, which lacks sufficient specificity in the specification.

Regarding claims 21 and 27-28, the rejection is based on the same reason described for claim 7, because these claims recite the same or similar limitation(s) as claim 7.

Regarding claims 8-20 and 22-26, these dependent claims inherit all limitations of their parent claim(s).

Further, regarding claim 15, the recited limitation “identifying the groups in which the related mutually dependent relationships exceed a configurable threshold is achieved automatically through utilization of computer generated or user defined rules in which the configurable threshold is defined for each category”, also introduces new subject matter, which lacks sufficient specificity in the specification.

Further, regarding claim 17, the recited limitation “the identified groups in which the configurable threshold was exceeded to a user at a GUI”, also introduces new subject matter, which lacks sufficient specificity in the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 7-26 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 7, in the preamble, the claim recites “to identify related **concepts** which occur at a frequency greater than a configurable threshold”, and in the body, the claim recite “identifying unique concepts ... in which the related mutually dependent **relationships** exceed a configurable threshold”, which conflict each other, so that the combined limitation is indefinite. As best understood, the limitations will be interpreted as “to identify related concepts which occur at a frequency greater than a threshold” and “identifying unique concepts ... in which the related concepts occur at a frequency greater than a threshold”, respectively.

Regarding claims 21 and 28, the rejection is based on the same reason described for claim 7, because these claims recite the same or similar limitation(s) as claim 7.

Regarding claims 8-20 and 22-26, these dependent claims inherit all limitations of their parent claim(s).

Further, claim 13 recites the limitation "the category dictionary" in first line of the claim. There is insufficient antecedent basis for this limitation in the claim. As best understood, the claim will be interpreted as an immediately dependent claim of claim 12 hereinafter.

Claim Rejections - 35 USC § 103

5. Claims 7-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaithyanathan et al. (US 5,857,179) hereinafter referenced as Vaithyanathan.

As per claim 7, as best understood in view of rejection under 35 USC 112 1st and 2nd (see above), Vaithyanathan discloses computer method and apparatus for clustering documents and automatic generation of cluster keywords (title), comprising:

“receiving a collection of data” (figures 5 and 6a, his collection of document)

“converting the received data into a common format”; (col. 10, lines 43-59, the collection of data (text) is converted into a common format; col. 5, lines 20-35, ‘standardized set of format rules’);

“combining the converted received data in to clauses of related data” (col. 5, lines 20-55, wherein the text after the ‘pre-processing’ is interpreted as combined “converted received data”; col. 10, lines 60-67 and figure 6a, ‘sentences 1-19 are analogous to document (the converted document combined with standardized text format) into clauses or in a database’, wherein the term “clauses” is broadly interpreted as phrases, clauses or sentences, since the applicant does not follow the conventional meaning of a clause in the specification (see page 15) and does not specifically provide his own definition either);

”attempting to associate a category with each word within each of the clauses” (col. 11, lines 1-5, each word in the sentences 1-19 is assigned a category and a matrix is formed);

“identifying mutually dependent relationships between the categorized words, according to at least one rule defining mutually dependent relationships between categorized words”, (col. 11, lines 33-62, this matrix is then clustered into three clusters ‘using a k-means clustering algorithm’ based on the relationship between the words in the sentences, ‘using nearest-neighbor (mutual dependent relationship) rule’, ‘using the rules of thumb described above’);

“grouping the identified mutually dependent relationships into groups of related mutually dependent relationships” (figure 6f col. 11, lines 52-57, ‘Clusters (the groups) I though III’).

But, Vaithyanathan does not expressly disclose “identifying unique concepts associated with the identified groups, wherein the identifying of unique concepts comprises recognizing the identified groups, in which the related concepts occur at a frequency greater than a threshold”.

However, the feature is well known in the art as evidenced by Liddy who discloses multilingual document retrieval system and method using semantic vector matching (title), wherein ‘the term “document”...include ...one or more clauses, sentences, or paragraphs’ (col. 3, line 65 to col. 4, line 4), comprising ‘select (necessarily identify) the single most appropriate concept group from the multilingual concept database for all those input words’ ‘using three sources of linguistic evidence’, including ‘a word in the sentence has been tagged (identified) ...with only one concept group code... considered Unique’ and ‘and concept group codes ...more than a predetermined number (occurrence frequency is more than a threshold) of words within the sentence being processed... considered Frequentcodes’, ‘these two types of locally determined concept group codes are used a “anchors” in the sentence’ (col. 11 line 39 to col. 12, line 7), which suggest the system has capability of identifying unique concepts with identified concept groups and their occurrence frequencies, as claimed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vaithyanathan by providing identifying a concept group considered unique and concept groups considered frequent within the sentence, as taught by Liddy, for the purpose of disambiguating the related words (Liddy: col. 12, lines 6-7) and/or finding highly relevant documents for searching (Liddy: col. 3, lines 25-28).

As per claim 8 (depending on claim 7), Vaithyanathan in view of Liddy discloses “the categorized words identified as being in a mutually dependent relationship exist within separate clauses” (Vaithyanathan: Fig. 6f, col. 11, lines 52-56; Liddy: col. 6, lines ‘matching ...the conceptual- level contents’, ‘matching occurs based on the frequency and co-occurrence (also interpreted as mutually dependent relationship) of proper nouns in documents and queries’);

As per claim 9 (depending on claim 8), Vaithyanathan in view of Liddy discloses “the separate clause exist within separate sentences” (Vaithyanathan: Fig. 6a, col. 11, lines 52-57; Liddy: ‘the document ...to include one or more clauses, sentences, or paragraphs (including separate clause)’).

As per claim 10 (depending on claim 7), Vaithyanathan in view of Liddy discloses “the converting comprises conversion of the received collection of data into the same format, wherein the received collection of data is made up of various data formats” (Vaithyanathan: Fig. 5 and col. 5, line 18-35, his document collection and ‘...words following a standardized set of format rules (corresponding to same format)’; Liddy: col. 8, lines 48, ‘accepts raw, unformatted text and transfers this to a standard format (interpreted as same format)’).

As per claim 11 (depending on claim 7), Vaithyanathan in view of Liddy discloses “the words comprise a coherent character string within the clauses” (Vaithyanathan: Figs 5 and 6A).

As per claim 12 (depending on claim 7), Vaithyanathan in view of Liddy further discloses “...searching a category dictionary to identify a category which matches the key word” (Liddy: col. 11, lines 13-14, ‘mapping (searching) each word to all possible corresponding concept categories using the multilingual concept database (MCD) (interpreted as category

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dictionary); col. 14, lines 3-67, 'monolingual hierarchical concept dictionary (MHCD)' and 'MCD both define concepts as a groups of synonyms').

As per claim 13 (depending on claim 12), Vaithyanathan in view of Liddy further discloses "the category dictionary is comprised of combination of original expressions, parts of speech, concepts and categories, wherein the original expressions are equivalent to the key words, the parts of speech are a classification of the key words, the concept are replacement expressions of the key words and categories represent a larger group having the nature of the keyword" (Vaithyanathan: Figs. 6A and 6F and col. 5, lines 38-60; Liddy: col. 10, lines 53-67, 'MCGRE (multilingual concept group retrieval engine), accept... part-of-speech tagged, input text (original expression) and retrieves from the multilingual concept database any and all of the concept groups...'; col. 9, lines 7-50, 'Part of Speech (POS) tagger', 'identify various substantive words (key words)', 'concept-level categories'; col. 11, lines 18-33, 'each concept group is a collection of words or phrases (key words)... that are conceptually synonymous or near-synonymous (replacement expressions of the key words)'; col. 14, lines 3-67, 'monolingual hierarchical concept dictionary (MHCD)...define concepts as a groups of synonyms'; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Vaithyanathan and Liddy these teachings to providing a database or dictionary having above mentioned elements, for the purpose of disambiguating the related words (Liddy: col. 12, lines 6-7) and/or finding highly relevant documents for searching (Liddy: col. 3, lines 25-28)).

As per claim 14 (depending on claim 7), Vaithyanathan in view of Liddy further discloses "the mutually dependent relationships are determined according to rules applied to

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keywords and their associated categories within a clause” (Vaithyanathan: Figs. 6f and 6g and col. 11, line 32 to col. 12, line 7, ‘nearest-neighbor rule’, ‘using the rules of thumb described above’).

As per claim 15 (depending on claim 7), as best understood in view of rejection under 35 USC 112 1st and 2nd (see above), the limitation is interpreted as “identifying the groups is achieved automatically through utilization of computer generated or user defined rules is defined for each category”. The rejection is based on the same reason described for claim 14, because the rejection for claim 14 covers the same or similar limitation(s) of claim 15.

As per claim 16 (depending on claim 7), Vaithyanathan in view of Liddy further discloses “the [configurable] threshold is provided manually by a user for each of the identified groups of mutually dependent relationships in response to the user being presented a display of all the groups of mutually dependent relationship, at a GUI” (Liddy: Fig 2 and col. 8, lines 15-16 and col. 20, lines 16-40, ‘GUI 250’, ‘presenting the result to the user’, ‘allows users to interactive with the system ...’, which suggests that the system is capable of implementing the functionality as claimed).

As per claim 17 (depending on claim 7), as best understood in view of rejection under 35 USC 112 1st and 2nd (see above), the limitation is interpreted as “presenting identifying the groups to user at a GUI”. The rejection is based on the same reason described for claim 16, because the rejection for claim 16 covers the same or similar limitation(s) of claim 17.

As per claim 18 (depending on claim 7), the rejection is based on the same reason described for claim 16, because the rejection for claim 16 covers the same or similar limitation(s) of claim 18.

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As per claim 19 (depending on claim 7), the rejection is based on the same reason described for claim 7, because the rejection for claim 7 covers the same or similar limitation(s) of claim 19.

As per claim 20 (depending on claim 7), the rejection is based on the same reason described for claim 16, because the rejection for claim 16 covers the same or similar limitation(s) of claim 20.

Claims 21-28 are the same in scope and content as claims 7-20 above and therefore are rejected under the same rationale.

Conclusion

6. Please address mail to be delivered by the United States Postal Service (USPS) as follows:

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Effective January 14, 2005, except correspondence for Maintenance Fee payments, Deposit Account Replenishments (see 1.25(c)(4)), and Licensing and Review (see 37 CFR 5.1(c) and 5.2(c)), please address correspondence to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolator, etc.) as follows:

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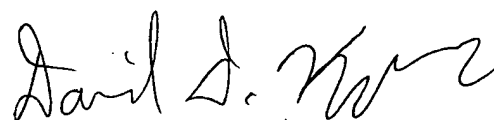
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qi Han whose telephone numbers is (571) 272-7604. The examiner can normally be reached on Monday through Thursday from 9:00 a.m. to 7:00 p.m. If

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attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov. For general information about the PAIR system, see <http://pair-direct.uspto.gov>.

QH/qh
August 4, 2005

A handwritten signature in black ink, appearing to read "David D. Knepper", with a stylized flourish at the end.

DAVID D. KNEPPER
PRIMARY EXAMINER